Contents: Underground Injection Control

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Section	Overview of Content (see section for full process)
Introduction	
1. Baseline Inventory Requirements	• Ensure UIC device is on file with EPA.
2. Installation of New Underground Injection Control Wells	• Submit application for installation to EPA. • Prepare and submit SPDES permit modification request. • Forward approvals and permits to departments.
3. Complying with Underground Injection Control Operational Requirements	• Ensure that UIC device is on file with EPA. • Limit wastewater discharges to permitted levels. • Determine if facility modifications could affect discharges. • Discontinue discharges other than sanitary sewage, noncontact cooling water, or stormwater runoff. • Close wells according to procedure.
4. Closure of Underground Injection Control Wells	• Prepare and submit Sampling and Analysis Plan to SCDHS or EPA. • Seek concurrence and implement plan. • Close UIC well. • Forward documentation to owner and update inventory.
Definitions	

Exhibits

Generic Closure Plan

Forms

None

Training Requirements and Reporting Obligations

This subject area does not contain training requirements.

This subject area contains the following reporting obligations:

- Send EPA updated UIC Inventory. See the section Baseline Inventory Requirements.

- Send EPA updated UIC inventory. See the section Baseline Inventory Requirements.
- Submit application for proposed installation to the EPA. See the section Installation of New Underground Injection Control Wells.
- Submit SPDES permit modification request to DOE. See the section Installation of New Underground Injection Control Wells.
- Notify SCDHS and the EPA of the intended closure. See the section Closure of Underground Injection Control Wells.

References

Suffolk County Standard Procedure No. 9-95, Pumpout and Soil Clean-up Criteria

Standards of Performance

All staff and guests shall comply with applicable Laboratory policies, standards, and procedures, unless a formal variance is obtained.

All staff and guests shall promptly report accidents, injuries, ES&H deficiencies, emergencies, and off-normal events in accordance with procedures.

Managers shall analyze work for hazards, authorize work to proceed, and ensure that work is performed within established controls.

Managers shall ensure that work is planned to prevent pollution, minimize waste, and conserve resources, and that work is conducted in a cost-effective manner that eliminates or minimizes environmental impact.

Before waste is generated, managers shall ensure that it has a funded and available disposition pathway. Managers shall ensure that all hazardous materials and waste have an identified owner who is accountable for its proper disposition.

All staff and users shall identify, evaluate, and control hazards in order to ensure that work is conducted safely and in a manner that protects the environment and the public.

All staff and users shall ensure that environmental effluents, emissions, and wastes associated with their work are as low as reasonably achievable (also referred to as "E-ALARA").

Management System

This subject area belongs to the **Environmental Management System** management system.

Back to Top

1.3-092002-/standard/0j/0j00t011.htm

Introduction: Underground Injection Control

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Underground Injection Control (UIC) is regulated under the federal Safe Drinking Water Act (SDWA). Proper management of UIC devices, such as drywells, cesspools, septic tanks and leaching fields, is critical to the protection of underground sources of drinking water.

The U.S. Environmental Protection Agency (EPA) established the UIC program under the Safe Drinking Water Act in an effort to plug the gap in the Clean Water Act concerning discharges to groundwater. In New York State (NYS), the UIC program is implemented through the EPA since NYS did not adopt a new program for regulating UIC devices. New York State had already implemented a similar program through its Clean Water Act (CWA) initiative. This subject area provides the requirements for establishing the initial baseline inventory of UIC devices, and for installing, operating and closing underground injection control wells. In addition to the SDWA requirements, wastewater discharges to UICs are also regulated under the NYS State Pollutant Discharge Elimination System program (SPDES) and are subject to permitting by the NYS Department of Environmental Conservation (DEC).

Back to Top

1.2-012002/standard/0j/0j00i011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer

Subject Area: ***Underground Injection Control***

1. Baseline Inventory Requirements

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Applicability

This information applies to the owners and operators of underground injection control wells (UICs).

Required Procedure

All existing UICs must be included in the UIC inventory on file with the U.S. Environmental Protection Agency (EPA).

Step 1	Owners of UICs contact their Environmental Compliance Representative (ECR) and review the existing UIC inventory on file with the EPA to ensure that their UIC device is on record.
Step 2	If an existing well is not included in the inventory, notify the Environmental Subject Matter Expert (SME) on UICs and provide the following information: • Location; • Size; • Construction type (pre-cast or block); • Purpose (i.e., type of wastewater discharged). If UICs are discovered during the conduct of Environmental Retstoration field investigations or remediation, the participants in the IAG (i.e., EPA, NYSDEC, DOE) will be notified.
Step 3	The SME updates the inventory, supplies it to the EPA, and makes it available to departments online.
Step 4	The EPA reviews the updated inventory and may request additional information regarding the purpose of the device and its history. Additional information may include the date of installation, chemical analysis of wastewater, or analysis of existing UIC contents.
Step 5	If additional information is requested, the UIC owner provides it to the SME for subsequent transmittal to the EPA. The SME or ECR can assist in collecting and collating this information.
Step 6	The UIC owner operates the UIC in full conformance with UIC Operating and Liquid Effluent Requirements.

Guidelines

UICs have the potential to receive accidental spills or unintentional discharges. Consequently, it is advisable to close, when practicable, all UIC wells and reroute these discharges to routinely monitored point source discharges, such as the central sanitary sewer or stormwater collection system.

Facilities serviced by UICs should inspect facility operations annually (possibly as part of the Tier 1 program) to ensure that preventive practices are in place (e.g., secondary containment for chemical storage) and to protect UICs from unauthorized releases.

Whenever potential for accidental release exists, UIC wells should be sampled to ensure that there have been no discharges of industrial contaminants that could potentially threaten an underground source of drinking water.

| Continue to Next Page |

Back to Top

1.2-012002/standard/0j/0j01d011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer

Subject Area: ***Underground Injection Control***

2. Installation of New Underground Injection Control Wells

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Applicability

This information applies to the operators of underground injection control wells (UICs).

Required Procedure

Applications for new UICs should only be considered under the following circumstances:

- Stormwater control when no permitted systems are within economically feasible proximity and where no industrial or experimental activities are conducted;
- Sanitary systems when not within economically feasible proximity of the central system and where no industrial or experimental activities are conducted.

New UICs cannot be installed without prior authorization from the U.S. Environmental Protection Agency (EPA).

Step 1	Upon determination that a new UIC is required, contact either the Environmental Compliance Representative (ECR) or the Environmental Subject Matter Expert (SME) on UICs.
Step 2	The owner of the UIC provides the following information to the SME or ECR: 1. Detailed installation drawings, including location diagram; cross section; depth and diameter; and materials of construction. 2. A full operating description of the facility that is contributing waste to the UIC, including a description of the operations; rates of wastewater discharge; source(s) of fluids; and estimated flow rates from each source. 3. A chemical description or analysis of the wastes being discharged. For proposed UICs, an estimate of fluid composition is permissible. Contact the ECR or SME for a full list of required analytical parameters and for assistance in collecting wastewater samples. 4. Topographic, geologic, and hydrologic maps of the area, extending to one mile beyond the proposed UIC. The maps must show all existing UICs, all potable water supplies, all surface water bodies, the groundwater flow direction, and soil characteristics (porosity and permeability). 5. A monitoring plan that includes a monitoring schedule; monitoring parameters; and the location of sample collection points. The ECR or SME can assist the owner in developing this information.
Step 3	The Environmental Subject Matter Expert submits a completed application for the proposed installation along with the information provided above to the EPA for review and approval.
Step 4	Discharges to UICs are also subject to State Pollutant Discharge Elimination System (SPDES)

Step 4	Discharges to UICs are also subject to State Pollutant Discharge Elimination System (SPDES) permitting and monitoring requirements. For discharges other than small sanitary systems (i.e., serving less than 10 persons) or stormwater disposal systems, the SME prepares a separate SPDES permit modification request and submits it to the DOE for subsequent submittal to the New York State Department of Environmental Conservation (NYSDEC).
Step 5	Upon receipt, the SME forwards all approvals and permits to departments.

Guidelines

UICs could potentially receive accidental spills or unintentional discharges. Consequently, it is advisable to use other methods of wastewater disposal, when practicable. Discharges should be routed to the central sanitary sewer or stormwater collection systems, if feasible.

| Go to Previous Page | Continue to Next Page |

Back to Top

1.2-012002/standard/0j/0j02d011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer

Subject Area: ***Underground Injection Control***

3. Complying with Underground Injection Control Operational Requirements

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Applicability

This information applies to the operators of underground injection control wells (UICs).

Required Procedure

All UICs are operated in accordance with the following procedure to ensure compliance with the Safe Drinking Water Act.

Step 1	The owner of a UIC device contacts their Environmental Compliance Representative (ECR) to ensure that their UIC devices are included in the Baseline Inventory on file with the Environmental Protection Agency (EPA).
Step 2	The UIC owner limits wastewater discharges to the permitted types contained in the authorized waste description (i.e., sanitary, stormwater). Limit wastewater discharges to UIC wells to normal sanitary sewage, non-contact cooling water, or stormwater runoff. In no case can industrial wastes be permitted to flow to or be purposely discharged into existing UICs. Connection of a UIC to a floor drain constitutes an industrial discharge and is subject to immediate closure. **Note:** For the purpose of this procedure, sanitary sewage includes human wastes and routine household wastes without the admixture of wastewater generated by Laboratory operations.
Step 3	Evaluate all facility modifications, materials or process changes to determine if the change could affect discharges to a UIC.
Step 4	Immediately discontinue discharges of wastes other than sanitary sewage, non-contact cooling water, or stormwater runoff to UICs, and notify the Environmental Subject Matter Expert (SME) of the discharge. Such discharges could require the immediate closure and remediation of the UIC. Discharges to UICs are also regulated under the New York State Department of Environmental Conservation (NYSDEC) State Permit Discharge Elimination System (SPDES) program. The Laboratory has provided the NYSDEC with a list of generic discharges (i.e., sanitary, non-contact

	cooling and stormwater runoff) that have been approved under the existing SPDES permit. Discharge of any other wastewater is subject to SPDES permitting.
Step 5	Close UIC wells when other methods of wastewater disposal are viable. Other methods include connection to the central sanitary sewer or local stormwater collection system. Close UIC wells in accordance with standard procedure.

Guidelines

UICs could potentially receive accidental spills or unintentional discharges. Consequently, it is advisable to close, when practicable, all UIC wells and reroute these discharges to routinely monitored point source discharges, such as the central sanitary sewer or stormwater collection system.

Facilities serviced by UICs should inspect facility operations annually (possibly as part of the Tier 1 program) to ensure that preventive practices are in place (e.g., secondary containment for chemical storage) and to protect UICs from unauthorized releases.

The owner should establish and implement a preventative maintenance program for the facility and equipment to minimize the potential impact of accidental discharges to UICs.

Whenever potential for accidental release exists, UIC wells should be sampled to ensure that there have been no discharges of industrial contaminants that could potentially threaten an underground source of drinking water.

| Go to Previous Page | Continue to Next Page |

Back to Top

1.2-012002/standard/0j/0j03d011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer

Subject Area: ***Underground Injection Control***

4. Closure of Underground Injection Control Wells

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Applicability

This information applies to BNL staff who abandon or close an underground injection control well (UIC), e.g., owners, Department Chairs, or Plant Engineering. It also applies to those who have been instructed by a regulatory agency to close a UIC (e.g., New York Department of Environmental Conservation (DEC), Suffolk County, U.S. Environmental Protection Agency (EPA), or the Department of Energy).

Required Procedure

No person must close or abandon any underground injection control well without proper approvals.

Step 1	Staff wishing to close or abandon a UIC well contact their Environmental Compliance Representative (ECR) or Environmental Subject Matter Expert (SME) on UICs.
Step 2	The SME notifies the Suffolk County Department of Health Services (SCDHS) and the EPA of the intended closure. The SME prepares a short Sampling and Analysis Plan and gives it to the SCDHS and/or EPA for review and concurrence upon request. The plan includes the method and frequency of sample collection, sample types, list of analytical parameters, EPA methodology, and Quality Assurance/Control procedures. Alternatively, closure can be conducted in accordance with the Generic Closure Plan exhibit, which has been approved by the EPA and the SCDHS.
Step 3	• Upon verbal or written authorization, the SME authorizes implementation of the Sampling and Analysis Plan. The SCDHS witnesses all fieldwork. Environmental Compliance staff perform all sample collection unless other arrangements are made. If requested, the SCDHS may collect a sample aliquot for independent analysis. • Field sampling staff ship all samples to the appropriate laboratories identified in the Sampling and Analysis Plan. • BNL Analytical Services staff or the contracting laboratory forwards copies of analytical data reports to the SME for review and comparison to Suffolk County Guidelines contained in Suffolk County Standard Procedure No. 9-95, Pumpout and Soil Clean-up Criteria. The SME documents and sends the results of this comparison to both the SCDHS and EPA for review and concurrence.

Step 4	If the analytical results show the liquids or sediment to contain contaminants at concentrations that exceed SCDHS guidelines, an investigation will be performed to determine the depth and extent of contamination.
	
	• The SME prepares a formal Investigation Work Plan to document the scope of the investigation.
	• The SCDHS approves the plan.
	• Upon completion of the fieldwork authorized under the Work Plan, the BNL Analytical Services staff or the contracting laboratory forward the analytical data to the SME for assessment and determination of the extent of contamination.
	• Once the extent of contamination is determined, staff proceed with the clean-out and closure in accordance with SCDHS and EPA approvals and directives.
	  ○ Dispose of all solids and liquids generated by this closure in accordance with all applicable regulations, including the Resource Conservation and Recovery Act (RCRA).
	  ○ Submit copies of all disposal receipts to the SME for transmittal to the SCDHS and EPA.

Step 5	Upon receipt of written concurrence, the SME authorizes the closure of the UIC. Closure consists of removing free liquids (if present) and filling the device to grade with sand or gravel. Staff do the following: • Disconnect and cap all piping to the UIC. • Transfer removed liquids to the BNL sanitary sewer or dispose of them via a commercial sewage disposal company. • Remove access manholes and grade the area smooth with the surrounding landscape. UICs located in parking areas may be paved.
Step 6	The SME forwards all closure approvals and documentation to the owner, and changes the status of the UIC on the inventory.

Guidelines

The list of parameters included in the SCDHS "Minimum Equipment and Procedures for Pumping Out Industrial Waste Pools" is limited. To better characterize wastes contained in the UIC well, a full method scan should be performed for volatiles, semi-volatiles, and Target Analyte List metals.

UICs could potentially receive accidental spills or unintentional discharges. Consequently, it is advisable to close all UIC wells and reroute these discharges to routinely monitored point source discharges, such as the central

all UIC wells and reroute these discharges to routinely monitored point source discharges, such as the central sanitary sewer or stormwater collection system.

References

Suffolk County Standard Procedure No. 9-95, Pumpout and Soil Clean-up Criteria.

| Go to Previous Page |

Back to Top

1.2-012002/standard/0j/0j04d011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer

CLOSURE PLAN

for

UNDERGROUND INJECTION CONTROL

BROOKHAVEN NATIONAL LABORATORY

FOR:

BROOKHAVEN NATIONAL LABORATORY

BY:

P.W. GROSSER

CONSULTING

ENGINEER & HYDROGEOLOGIST, P.C.

CLOSURE PLAN FOR UNDERGROUND INJECTION CONTROL

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Site Description and Background 1

2.0 IDENTIFICATION OF UICs TO BE CLOSED 2
2.1 Characterization of UICs 2
2.2 Initial Sampling of UICs 3
2.2.1 Cesspools, Septic Tanks, & Drywells 3
2.2.2 Leaching Field 3
2.2.3 Diffusion Wells 4
2.2.4 Sample Analysis 4
2.3 Data Analysis and Remediation Procedures 4
2.4 Final Closure 5
2.4.1 Cesspools, Septic Tanks, & Drywells 6
2.4.2 Leaching Fields 6
2.4.3 Diffusion Wells 6

3.0 DISPOSAL 6

4.0 CLOSURE REPORT 7

APPENDIX A UIC Inventory

APPENDIX B Article 12-SOP NO. 9-95 Pumpout and Soil Cleanup Criteria

1.0 INTRODUCTION

P.W. Grosser Consulting Engineer & Hydrogeologist, P.C. (PWGC) has prepared this closure plan to be submitted to the USEPA to address the work that will be conducted at Brookhaven National Laboratory (BNL). Work will be performed in accordance with the USEPA Underground Injection Control (UIC) Program as implemented through Suffolk County Department of Health Services (SCDHS) Article 12-SOP No.9-95 A Pumpout and Soil Cleanup Criteria. With SCDHS guidance, BNL has been investigating the existence of Class V Underground Injection Wells (UICs). The investigation has included verifying the existence of Class V wells, determining their status, sampling, and proper closure.

Since the closure of UICs at the BNL facility is expected to progress through the year 2,000, this closure plan describes the general procedures that have been and will be followed with regard to the closing of these UICs. Detailed descriptions, construction details, discharge points, etc., of specific structures will be addressed in the Closure Reports to be submitted following proper closure of the UIC. BNL believes that this procedure is appropriate given the continued investigation into various structures and the continued close oversight by the SCDHS. Prior to sampling and or closure of specific structures, coordination and approval is and will be obtained by the SCDHS. This documentation will be included with the final Closure Report for the specific structure.

1.1 Site Description and Background

BNL is located in Upton, Suffolk County, New York, near the geographic center of Long Island. The site was formerly occupied by the U.S. Army as Camp Upton during World Wars I and II. Between the wars, the Civilian Conservation Corps operated the site. In 1947, the Atomic Energy Commission established BNL. The Laboratory was transferred to the Energy Research and Development Administration in 1975 and to the Department of Energy (DOE) in 1977.

The BNL property approximates a square, 3 miles on each side, comprising an area of approximately 5,265 acres (8.23 square miles). The developed region includes the principal BNL facilities, which are near the center of the site on relatively high ground. These facilities comprise an area, of

approximately 900 acres, of which 500 acres were originally developed for Army use. Outlying facilities occupy approximately 550 acres and include an apartment area, biology field, hazardous waste management facility, sewage treatment plant, fire breaks, and a former landfill area.

2.0 IDENTIFICATION OF UICs TO BE CLOSED

Attached as Appendix A are all the UICs to be closed at the BNL facility. Appendix A identifies these structures by building, type, status, and provides available current information with regard to the UIC. Closure procedures of these structures have been implemented and will be completed during the year 2000. As an interim measure, UICs contained on this list, which are not properly closed by September 30, 1999, will be added to the UIC area Wide Permit to be submitted to the USEPA by this date. Should additional structures be identified for closure through continued investigation, a revised list will be submitted to the USEPA accordingly.

2.1 Characterization of UICs

There are a number of different types of Class V Injection Wells to be closed at the BNL facility. A general description of each type of structure is as follows:

X Cesspool (CP) - Structures designated as cesspools receive sanitary water discharge, either directly or via a septic tank. These structures generally consist of several precast concrete leaching rings although, some older structures may be of block construction.

X Drywell (DW) - Structures designated as drywells receive storm water discharge, either directly through slotted covers or via floor drains. Again, these structures generally consist of several precast concrete leaching rings.

X Septic Tank (ST) - Structures designated as septic tanks receive sanitary water discharge. Generally, the structures are solid precast concrete structures designed to contain sanitary solids while discharging the liquid to a leaching structure.

X Leaching Field (LF) - Leach fields are constructed of slotted pipe and receive sanitary water discharge via a septic tank.

X Diffusion Well (DF) - diffusion wells receive re-injection of once through, non-contact cooling water. These wells generally consist of typical well casing and screen, which contain a gravel filter to facilitate the re-injection of the cooling water.

Each UIC will be inspected prior to proper closure to verify or determine the source(s) of fluids entering into the UIC. Flush and/or dye testing will be performed on suspected inlets to ascertain whether these inlets are connected to the UIC prior to sampling. Discharge information will be documented and the information will be included as part of the closure report to be prepared for the structure.

2.2 Initial Sampling of UICs

2.2.1 Cesspools, Septic Tanks, & Drywells

Initial sampling will be performed in accordance with the SCDHS Article 12 - SOP No. 9-95 (a copy of this document is included in Appendix B). One sample will be collected directly from the bottom of each UIC, through standing water should it exist, using a hand held auger. The auger will be decontaminated using a non-phosphate detergent scrub, followed by a distilled water rinse. When multiple structures are associated with a sanitary system (septic tank with multiple leaching pools), one sample will be collected from each leaching pool and a sludge sample will be collected from the bottom of the septic tank. If a leaching pool contains liquid, a liquid sample will also be collected using a dedicated disposable polyethylene bailer.

2.2.2 Leaching Field

In order to obtain an initial sample from a leaching field, a section of pipe in close proximity to the septic tank will be located and uncovered. A soil sample will then be collected from beneath the pipe using a hand held auger as described above.

2.2.3 Diffusion Wells

Diffusion wells, which are installed into groundwater, will not be sampled since they were designed to receive non-contact cooling water from geothermal processes. Additionally, these wells have never been put into long term operation.

2.2.4 Sample Analysis

Once collected, the sample (solid or liquid) will be transferred to pre-cleaned laboratory supplied glassware and placed in a cooler on ice. The samples will be transported under chain of custody to a New York State (NYS) Certified Laboratory and analyzed for the compounds specified in the SCDHS Article 12 - SOP No. 9-95. Sample analysis will include the following parameters:

X Volatile Organic Compounds (SCDHS list) by EPA Method 8260.

X Total Metals (SCDHS list)

X Total Petroleum Hydrocarbons (TPH) by EPA Method 8015*

*If the TPH sample reveals concentration levels in excess of 500 mg/L the following test shall be performed.

X Semi-Volatile Organic Compounds (SCDHS list - petroleum aromatic hydrocarbons)

Semi-volatile organic compounds may be analyzed in place of TPH to expedite the closure of UICs to meet any given time constraints.

2.3 Data Analysis and Remediation Procedures

The analytical laboratory results for the UIC wells will be individually compared to the Action Levels contained in the SCDHS Article 12- SOP No. 9-95. If the sample collected from the bottom of the structure does not exceed the Action Levels contained in the SCDHS document, then no remedial action will be performed and final closure procedures will be followed. If liquids are

encountered within the structure, it shall be pumped out and properly disposed of prior to final closure. The liquid sample results will be used to determine the proper disposal pathway.

If the initial soil/sediment sample(s) exceed the Action Level(s) contained in the SCDHS document, then that injection well will require remediation of the contaminated soils prior to final closure. Remediation will likely consist of removing the contaminated soil/sediment until it is believed that clean soil conditions have been reached. Prior to soil/sediment removal, liquids will be pumped out and properly disposed as determined through the liquid sample results. To determine when clean soil conditions exist, a PWGC field representative will be present to visually observe the soil for staining and to monitor the excavated material for the presence of VOCs (if they were detected in the initial sample) with an "hnu" Photoionization Detector (PID). The PID is a portable field instrument capable of detecting the presence of VOC=s associated with commonly used industrial solvents and petroleum products. Soils exhibiting visual staining or elevated PID response will be removed, the material placed in NYS Department of Transportation (DOT) fifty-five gallon drums or other approved container pending proper disposal. At the completion of the soil removal (based on visual observation and PID response), an endpoint sample will be collected following the same procedure documented for the collection of the initial sample. The endpoint sample will be analyzed for only those compounds detected above SCDHS action levels in the initial sample.

In accordance with the USEPA UIC Program, remedial work will continue to be coordinated with the SCDHS and the USEPA. It is our understanding that the USEPA will review and respond to all closure plans and scheduling of work within 30 days.

2.4 Final Closure

The analytical results of the endpoint sample will be compared to soil cleanup objectives contained in the SCDHS Article- 12 SOP No. 9-95. Once the results are below SCDHS soil cleanup objectives, floor drains or inlets contributing to the discharge of the UIC will be plugged with concrete. If there are no utilities or obstructions, piping connecting the inlet to the UIC will be removed or the pipe immediately adjacent to the UIC will be cut and plugged with concrete.

2.4.1 Cesspools, Septic Tanks, & Drywells

Cesspools, septic tanks, and drywells will be properly closed by filling the structure with clean sand. If the drywell or cesspool covers are removed to make the backfilling tasks easier, the covers will put back prior to regrading of the area. Manhole covers and castings will be removed.

2.4.2 Leaching Fields

Leaching fields will be closed by cutting the inlet piping and plugging it with concrete. The remainder of the leaching field piping will be abandoned in place.

2.4.3 Diffusion Wells

Proper closure of the diffusion wells will be completed by a NYS licensed well driller. The diffusion wells will be sealed by filling the screen zone with sand (Unimin No. 2) to a level of 10 feet above the water table. A two to three foot bentonite seal would then be placed on top and the rest of the casing will be sealed with a cement/bentonite grout. The uppermost 5 feet of the well will be removed and a cap will be welded in place. When filling up the casing with a cement/bentonite grout, the valve isolating the diffusion well with its associated piping will remain in the open position therefore allowing the cement bentonite grout to flow into the pipe and form a plug. Valve boxes will be removed and disposed. The abandonment detail depicting this process is included in Appendix C.

3.0 DISPOSAL

Waste (both liquid and solid) generated from remedial and closure activities will be handled and disposed of in accordance with prevailing federal, state, and local laws. Initial liquid samples will be used to determine the final disposal pathway of the liquid, which will likely involve disposal at the on-site sewage treatment plant. Waste characterization samples of the excavated soil/sediment will be collected prior to disposal, if necessary, to determine the proper disposal pathway of the material.

4.0 CLOSURE REPORT

A final closure report will be submitted to the EPA and SCDHS documenting the closure of each UIC. This report will list the type of UIC, specific construction and configuration information, methodology implemented in closing the UIC, appropriate sampling results, and waste manifests for soil that is disposed of during remedial activities.

Appendix A

UIC Inventory

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
51-CP-1	51	73	5	5W10	NA	Closed	NA
51-CP-2	51	73	5	5W10	NA	Closed	NA
51-CP-3	51	73	5	5W10	NA	Closed	NA
86-CP-1	86	85	n/a	n/a	NA	Closed	NA
87-CP-1	87	85	n/a	n/a	NA	Closed	NA
88-CP-1	88	85	n/a	n/a	NA	Closed	NA
89-CP-1	89	85	n/a	n/a	NA	Closed	NA
89-DW-1	89	85	1	500	Stormwater	Active	Permitted
89-DW-2	89	85	1	500	Stormwater	Active	Permitted
89-DW-3	89	85	1	500	Stormwater	Active	Permitted
91-CP-1	91	96	n/a	n/a	NA	Not In Use	NA
96-CP-1	96	85	1	5W20	NA	Closed	NA
96-CP-2	96	85	5	5W10	NA	Closed	NA
96-CP-3	96	85	n/a	n/a	NA	Closed	NA
96-DW-1	96	85	n/a	n/a	NA	Closed	NA
100-DW-1	100	85	1	500	Stormwater	Active	Permitted
100-DW-2	100	85	1	500	Stormwater	Active	Permitted
100-DW-3	100	85	1	500	Stormwater	Active	Permitted
120-CP-1	120	76	n/a	n/a	NA	Closed	NA
122(T)-CP-1	0122T	54	5	5W20	NA	Closed	NA
130-DW-1	130	74	1	500	Stormwater	Active	Permitted
130-DW-2	130	74	1	500	Stormwater	Active	Permitted
134-DW-1	134	74	1	500	Stormwater	Active	Permitted
158-DW-1	158	96	1	500	Stormwater	Active	Permitted
158-DW-2	158	96	1	500	Stormwater	Active	Permitted
179-DW-1	179	84	1	500	Stormwater	Active	Permitted
179-DW-2	179	84	1	500	Stormwater	Active	Permitted
194-DW-1	194	84	1	500	Stormwater	Active	Permitted
197-CP-1	197	64	5	5W20	NA	Closed	NA
209-CP-1	209	86	n/a	n/a	NA	Closed	NA
244-CP-1	244	83	4	5W20	NA	Closed	NA

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
244-ST-1	244	83	Septic Tank	5W20	NA	Closed	NA
348-CP-1	348	73	5	5W20	NA	Closed	NA
348-CP-2	348	73	5	5W20	NA	Closed	NA
348-CP-3	348	73	5	5W20	NA	Closed	NA
348-CP-4	348	73	5	5W20	NA	Closed	NA
348-CP-5	348	73	5	5W20	NA	Closed	NA
348-CP-6	348	73	5	5W20	NA	Closed	NA
348-CP-7	348	73	5	5W20	NA	Closed	NA
348-CP-8	348	73	5	5W20	NA	Closed	NA
348-DW-1	348	73	1	500	Stormwater	Active	Permitted
406-DW-1	406	102	1	500	Stormwater	Active	Permitted
422-CP-1	422	83	4	5W11	NA	Closed	NA
422-CP-2	422	83	4	5W11	NA	Closed	NA
422-CP-3	422	83	4	5W11	NA	Closed	NA
422-DW-1	422	83	1	500	NA	Closed	NA
422-ST-1	422	83	Septic tank	NA	NA	Closed	NA
423-DW-1	423	102	1	500	Stormwater	Active	Permitted
438-CP-1	438	84	1	500	NA	Closed	NA
438-DW-1	438	84	1	500	Stormwater	Active	Permitted
438-DW-2	438	84	1	500	Stormwater	Active	Permitted
444-CP-1	444	84	5	5W20	NA	Closed	NA
445-CP-1	445	98	5	5W10	Sanitary	Active	Permitted
449-CP-1	449	84	5	5W20	NA	Closed	NA
452-CP-1	452	85	5	5W20	NA	Closed	NA
452-CP-2	452	85	5	5W20	NA	Closed	NA
463-CP-1	463	67	5	5W10	NA	Closed	NA
463-DW-1	463	84	1	50000	NA	Closed	NA
464-DW-1	464	85	n/a	n/a	NA	Closed	NA
464-DW-2	464	85	n/a	n/a	NA	Closed	NA
464-DW-3	464	85	n/a	n/a	NA	Closed	NA
477-DW-1	477	74	2	500	Stormwater	Active	Permitted

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
478-DW-1	478	84	1	500	Stormwater	Active	Permitted
481-LP-1	481	86	5	5W20	NA	Closed	NA
482-DW-1	482	96	2	500	Stormwater	Active	Permitted
482-DW-2	482	96	2	500	Stormwater	Active	Permitted
491-DF-1	491	85	6	5A19	NA	Closed	NA
491-DF-2	491	85	6	5A19	NA	Closed	NA
491-DF-3	491	85	6	5A19	NA	Closed	NA
555-DW-1	555	74	5	5W20	NA	Closed	NA
560-DW-1	560	74	1	500	Stormwater	Active	Permitted
575-DW-1	575	38	1	500	Stormwater	Active	Permitted
599-DW-1	599	73	2	500	Stormwater	Active	Permitted
599-DW-2	599	73	2	500	Stormwater	Active	Permitted
599-DW-3	599	73	2	500	Stormwater	Active	Permitted
599-DW-4	599	73	2	500	Stormwater	Active	Permitted
599-DW-5	599	73	2	500	Stormwater	Active	Permitted
599-DW-6	599	73	2	500	Stormwater	Active	Permitted
599-DW-7	599	73	1	500	Stormwater	Active	Permitted
599-DW-8	599	73	2	500	Stormwater	Active	Permitted
599-DW-9	599	73	2	500	Stormwater	Active	Permitted
599-DW-10	599	73	2	500	Stormwater	Active	Permitted
599-DW-11	599	73	1	500	Stormwater	Active	Permitted
599-DW-12	599	73	2	500	Stormwater	Active	Permitted
599-DW-13	599	73	2	500	Stormwater	Active	Permitted
599-DW-14	599	73	2	500	Stormwater	Active	Permitted
599-DW-15	599	73	2	500	Stormwater	Active	Permitted
599-DW-16	599	73	2	500	Stormwater	Active	Permitted

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
599-DW-17	599	73	2	500	Stormwater	Active	Permitted
599-DW-18	599	73	2	500	Stormwater	Active	Permitted
599-DW-19	599	73	2	500	Stormwater	Active	Permitted
600-DW-1	600	95	1	500	Stormwater	Active	Permitted
610-DW-1	610	76	1	500	Stormwater	Closed	NA
611-DW-1	611	76	1	500	Stormwater	Closed	NA
611-DW-2	611	76	1	500	Stormwater	Closed	NA
614-DW-1	614	83	1	500	Supply Well Water	Active	Permitted
618-DW-1	618	93	1	500	Supply Well Water	Active	Permitted
619-DW-1	619	92	1	500	Supply Well Water	Active	Permitted
624-CP-1	624	73	5	5W20	NA	Closed	NA
632-DW-1	632	76	1	500	Stormwater	Closed	NA
634-CP-1	634	55	1	500	Supply Well Water	Active	Permitted
634-DW-1	634	55	1	500	Supply Well Water	Active	Permitted
635-DW-1	635	56	1	500	Supply Well Water	Active	Permitted
637-DW-1	637	56	1	500	Supply Well Water	Active	Permitted
639-DW-1	639	76	1	500	Stormwater	Active	Permitted
639-DW-2	639	76	1	500	Stormwater	Active	Permitted
751-DW-1	751	75	2	500	Stormwater	Active	Permitted
820-DW-1	820	65	2	500	Stormwater	Active	Permitted
902-CP-1	902	64	5	5W20	NA	Closed	NA
902-CP-2	902	64	5	5W20	NA	Closed	NA
904-CP-1	904	64	5	5W20	NA	Closed	NA
904-CP-2	904	64	5	5W20	NA	Closed	NA
905-CP-1	905	64	5	5W20	NA	Closed	NA
905-CP-2	905	64	5	5W20	NA	Closed	NA
905-CP-3	905	64	5	5W20	NA	Closed	NA
907-DW-1	907	74	1	500	Stormwater	Closed	NA

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
911-DW-1	911	64	1	500	Stormwater	Active	Permitted
913A-CP-1	0913A	64	n/a	n/a	NA	Closed	NA
913A-ST-1	0913A	64	n/a	n/a	NA	Closed	NA
913D-CP-1	0913D	64	n/a	n/a	NA	Closed	NA
913D-ST-1	0913D	64	n/a	n/a	NA	Closed	NA
914-CP-1	914	54	4	5W20	NA	Closed	NA
914-CP-2	914	54	4	5W20	NA	Closed	NA
914-ST-1	914	54	Septic Tank	5W20	NA	Closed	NA
918-CP-1	918	65	5	5W10	Sanitary	Closed	NA
919A-CP-1	0919A	54	4	5W20	NA	Closed	NA
919A-CP-2	0919A	54	4	5W20	NA	Closed	NA
919A-ST-1	0919A	54	Septic Tank	5W20	NA	Closed	NA
919B-CP-1	0919B	54	5	5W20	NA	Closed	NA
919B-CP-2	0919B	54	5	5W20	NA	Closed	NA
922-CP-1	922	65	5	5W10	NA	Closed	NA
922-CP-2	922	65	5	5W10	NA	Closed	NA
922-DW-2	922	65	2	500	Stormwater	Active	Permitted
925-CP-1	925	64	5	5W10	NA	Closed	NA
925-CP-2	925	64	5	5W10	NA	Closed	NA
926-CP-1	926	55	5	5W20	NA	Closed	NA
929-CP-1	929	64	n/a	n/a	NA	Closed	NA
930A-CP-1	0930A	54	5	5W20	NA	Closed	NA
933-DW-1	933	55	1	500	Stormwater	Active	Permitted
933A-DW-1	0933A	56	1	500	Stormwater	Active	Permitted
935-CP-1	935	55	5	5W20	NA	Closed	NA
935-DW-1	935	55	2	500	Stormwater	Active	Permitted
935-DW-2	935	55	2	500	Stormwater	Active	Permitted
938-LF-1	938	64	3	5W32	NA	Closed	NA
938-ST-1	938	64	Septic Tank	5W32	NA	Closed	NA

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
939-DW-1	939	64	1	500	Stormwater	Active	Permitted
940-CP-1	940	54	5	5W20	NA	Closed	NA
945-CP-1	945	64	5	5W20	NA	Closed	NA
945(T)-CP-1	0945T	64	5	5W20	NA	Closed	NA
960-DW-1	960	55	5	5-D-2	NA	Not In Use	NA
966-CP-1	966	55	n/a	n/a	NA	Closed	NA
975-DW-1	975	54	1	500	Stormwater	Active	Permitted
1001A-DW-1	01001A	19	1	5W20	NA	Closed	NA
1001B-DW-1	1001B	19	1	5W20	NA	Closed	NA
1001C-DW-1	1001C	19	1	5W20	NA	Closed	NA
1002-LF-1	1002	27	3	5W32	Sanitary	Closed	NA
1002-ST-1	1002	27	Septic Tank	5W32	Sanitary	Closed	NA
1003A-DW-1	1003A	27	1	5W20	NA	Closed	NA
1003B-DW-1	1003B	36	1	5W20	NA	Closed	NA
1003C-DW-1	1003C	36	1	5W20	NA	Closed	NA
1004A-LF-1	1004A	36	3	5W32	Sanitary	Closed	NA
1004A-ST-1	1004A	36	Septic Tank	5W32	Sanitary	Closed	NA
1004B-CP-1	1004B	36	5	5W10	Sanitary	Closed	NA
1005A-DW-1	1005A	45	1	5W20	Stormwater	Closed	NA
1005B-DW-1	1005B	45	1	5W20	Stormwater	Not In Use	NA
1005C-DW-1	1005C	45	1	5W20	Stormwater	Closed	NA
1005E-CP-1	1005E	44	n/a	n/a	NA	Closed	NA
1005E-DW-1	1005E	44	1	5W20	NA	Closed	NA
1005F-DW-1	1005F	45	1	5W20	Stormwater	Closed	NA
1006A-DW-1	1006A	44	1	5W20	Stormwater	Active	Permitted
1006A-LF-1	1006A	44	3	5W32	Stormwater	Closed	NA

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
1006A-ST-1	1006A	44	3	5W32	Sanitary	Closed	NA
1006E-DW-1	1006E	44	1	5W20	Stormwater	Not In Use	NA
1006W-DW-1	1006W	44	1	5W20	Stormwater	Not In Use	NA
1007A-DW-1	1007A	44	1	5W20	Stormwater	Closed	NA
1007B-DW-1	1007B	44	1	5W20	Stormwater	Closed	NA
1007C-DW-1	1007C	44	1	5W20	Stormwater	Closed	NA
1007W-DW-1	1007W	44	1	5W20	NA	Closed	NA
1008A-DW-1	1008A	34	1	5W20	Stormwater	Closed	NA
1008A-LF-1	1008A	34	3	5W32	Sanitary	Closed	NA
1008A-ST-1	1008A	34	Septic Tank	5W32	Sanitary	Closed	NA
1009A-DW-1	1009A	34	1	5W20	Stormwater	Closed	NA
1009B-DW-1	1009B	34	1	5W20	NA	Closed	NA
1009C-DW-1	1009C	25	1	5W20	NA	Closed	NA
1010A-CP-1	1010A	25	4	5W11	Sanitary	Closed	NA
1010A-CP-2	1010A	25	4	5W11	Sanitary	Closed	NA
1010A-CP-3	1010A	25	4	5W11	Sanitary	Closed	NA
1010A-ST-1	1010A	25	Septic Tank	5W11	Sanitary	Closed	NA
1011A-DW-1	1011A	18	1	5W20	NA	Closed	NA
1011B-DW-1	1011B	18	1	5W20	NA	Closed	NA
1011C-DW-1	1011C	18	1	5W20	NA	Closed	NA
1012-CP-1	1012	18	4	5W11	Sanitary	Closed	NA
1012-CP-2	1012	18	4	5W11	Sanitary	Closed	NA
1012-CP-3	1012	18	4	5W11	Sanitary	Closed	NA
1012-ST-1	1012	18	Septic Tank	5W11	Sanitary	Closed	NA
1101-CP-1	1101	26	5	5W20	Industrial/ Sanitary	Closed	NA

Well No	Bldg No	Map No	Type	EPA Code	Intended_Use_ID	Status_1999_ID	Future_Status_ID
1101-CP-2	1101	26	5	5W20	Industrial/ Sanitary	Closed	NA
318-DW-1	318		5	5W20	Stormwater	Active	Permitted
704-DW-1	704	65	5	5-D-2		Active	Permitted
725-DW-1	725	75			NA		
815-DW-1	815	65	5	5-D-2	Stormwater	Active	Permitted
901-DW-1	901	75	5	5-W-20	NA	Closed	NA
907-DW-2	907	74	5	5-D-2	NA	Not In Use	NA
911-DW-3	911	64	5	5-D-2	Stormwater	Active	Permitted
911-DW-4	911	64	5	5-D-2	Stormwater	Active	Permitted
911-DW-5	911	64	5	5-D-2	Stormwater	Active	Permitted
911-DW-6	911	64	5	5-D-2	Stormwater	Active	Permitted
703-DW-1	703	65	5	5-D-2	NA	Closed	To Be Closed

Appendix B

Article 12 - SOP NO.9-95

Pumpout and Soil Cleanup Criteria

Definitions: Underground Injection Control

Effective Date: **March 1999**

Point of Contact: Environmental Compliance Representative

Term	Definition
annually	Once within a calendar year.
existing injection well	Any well that existed on or before June 1984.
industrial waste	Waste that is not normal sanitary sewage, non-contact cooling water, or stormwater runoff. Stormwater runoff affected by manufacturing, fabrication, or other industrial activity may be considered industrial waste.
injection well	A well into which fluids are emplaced for the purpose of disposal. This definition includes all drywells, cesspools, septic tanks, and leaching fields.
owner, operator	Defined in the Facility Use Agreements.
permit	An authorization, license or equivalent document issued by EPA to implement the requirements of 40 CFR Parts 144, 145, and 146.
underground injection	The subsurface emplacement of fluids through a bored, driven, or drilled injection well.
underground source of drinking water	An aquifer or its portion that supplies any public water system, or that contains a sufficient quantity of water to supply a public water system, currently supplies drinking water, or contains less than 10,000 mg/L dissolved solids.
well, underground injection control well (UIC)	Any bored, drilled, driven or dug hole or shaft whose depth is greater than its largest surface dimension.

Back to Top

1.2-012002/standard/0j/0j00l011.htm

Revision History: Underground Injection Control

Point of Contact: Environmental Compliance Representative

Revision History of this Subject Area

Date	Description	Management System
March 1999	This is a new subject area.	Environmental Management System

Back to Top

1.2-012002/standard/0j/0j00a011.htm

Send a question or comment to the SBMS Help Desk
Disclaimer